SHUAI ZHOU

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RESEARCH INTERESTS

Robotics, Motion Planning, Multi-agent Systems

EDUCATION

South China University of Technology, Guangzhou, China   Sep 2022 — Jun 2026 (Expected)
Bachelor of Engineering in Robotics   Cumulative GPA: 3.84/4.00, Rank: 3/56

Core curriculum: Artificial Intelligence Technology and Application, Machine Vision and Sensing Systems, Mechanic, Introduction to Engineering, Data Structures and Algorithm

University of California, Berkeley, Berkeley, United States   Aug 2023 — Dec 2023
Visiting Student in EECS   Cumulative GPA: 4.00/4.00

Core curriculum: Data Structures, Designing information devices and Systems I, Introductory Physics II and Introduction to Solid Mechanics

ACADEMIC EXPERIENCE

RAP Lab, UM-SJTU Joint Institute, Shanghai Jiao Tong University   Shanghai, China
Research Intern — supervised by Prof Zhongqiang Ren   Apr 2024 — Present

- Research in Multi agent system & Motion planning.
- Specifically in developing planning algorithms for Multi agent Path finding with Asynchronous Actions (MAPF-AA).
- One paper is accepted by **AAAI-2025**(Top conference in heuristic search).

PUBLICATIONS

Loosely Synchronized Rule-Based Planning for Multi-Agent Path Finding with Asynchronous Actions
Shuai Zhou, Shizhe Zhao, Zhongqiang Ren   — Accepted by **AAAI-2025**
Links to preprint at arXiv

- Main Contributions: A rule-based planner named LSRP was proposed to quickly find feasible solutions for MAPF-AA which is variant of MAPF, utilizing preset rules to achieve scalability that is an order of magnitude higher than existing algorithms.In traditional MAPF, both time and space are discrete, but as the number of agents increases, the dimensionality curse arises. By transforming the NP-hard MAPF into MAPF-AA, where free time becomes continuous and the search dimension doubles, LSRP effectively addresses these challenges.

SKILLS

- **OS**: Windows, Linux(Ubuntu)
- **Programming Languages**: Python, C/C++, Java, HTML,MATLAB
- **Version Control**: Git
- **Writing**: LaTeX, Office
- **Languages**: Chinese (native), English (fluent)
- **Additional Courses**
    - CMU: 10301/601 Introduction to Machine Learning
    - CMU: 16-782 Planning and Decision-making in Robotics
    - Coursera: Robotics: Computational Motion Planning
    - Coursera: Robotics: Aerial Robotics

REFERENCES

Prof. Zhongqiang Ren
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